

DRIVER'S
GUIDE TO FAULTS AND FAILURES
204 H.P. 'DREWRY'
DIESEL MECHANICAL LOCOMOTIVES

Driver Training (Traction)
REGIONAL HEADQUARTERS.

C.A. ROSE
MOVEMENTS MANAGER

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THEORY OF THE
EARTH'S CRUST

By J. H. VAN DER KAMPT, D. Sc.,
Professor of Geology, University of Amsterdam

Translated by
J. H. VAN DER KAMPT, D. Sc.,
Professor of Geology, University of Amsterdam

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THIS BOOKLET IS NOT TO BE
REGARDED AS SUBSTITUTING THE
INSTRUCTIONS CONTAINED IN THE
RULE BOOK, GENERAL APPENDIX
OR DRIVERS' NOTES ISSUED BY THE
SOUTHERN REGION TRAINING SCHOOL.

IT IS INTENDED AS A GUIDE TO
DRIVERS DURING THEIR NORMAL
COURSE OF DUTIES.

ANY AMENDMENTS OR IMPROVEMENTS
FOR DEALING WITH FAULTS WILL BE
ADDED WHEN NECESSARY.

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ENGINE FAILS TO CRANK WHEN START BUTTON IS PRESSED.

Check Master Switch is closed.

Start Button must be Firmly pressed.

Check No. 2 15 amp Main Fuse.

Check for Sheared or Broken pinnions on
Starter motors and Engine Flywheel teeth.

Check leads on Battery Starter Motors & Circuit Box.

Not more than two attempts to start must be made.

ENGINE CRANKS BUT FAILS TO FIRE

Check Engine Stop Button is firmly closed.

Check Fuel Contents Gauge.

Check Fuel Stop Cock is Open.

Check latches on Fuel Injection Pumps are Upright.

Check Decompression Levers are down.

Test Filter by Opening Drain Cock.

If engine is cold, operate "Cold Start" button before depressing start button.

RED LIGHTS ILLUMINATED - LOW LUBRICATING OIL PRESSURE
(NORMAL - 28/30 p.s.i.)

Secure Locomotive
|
Check Master Gauges (Engine Compartment)
|
Check for leaks.
|
Stop Diesel Engine
|
Check Lubricating Oil Sump Level.
|
If Level is low - Arrange for Sump to be Topped Up.
|
If Level is high - Suspect pollution.
|
Suspect Filter or Strainer blocked.
|
Suspect defective pump or regulating valve.

HIGH WATER TEMPERATURE (ABOVE 185°F)

Secure locomotive.

Check Water level in Radiator.

Check for leaks.

Check for Blocked Radiator Gills.

Stop Diesel Engine.

Check Radiator Fan Belts and Drive.

Suspect defective By-pass Valve or Water
Circulating Pump.

MAIN RESERVOIR AIR PRESSURE FAILS TO BUILD UP TO
MAXIMUM

Diesel Engine must be Running

Check Compressor is Running

Stop Diesel Engine to check Compressor belts and sump

With Diesel Engine Running

Check Whistle & Sand Valves are not leaking

Check Main Reservoir isolating cock is open

Check ALL drain cocks are closed.

Check D.S.D. Check Valve is not leaking

If leaking:- Check Straight Air Brake handle
is at "FULL RELEASE" and depress
D.S.D. treadle.

Check Unloader Valve for leaks

If leaking:- Close Compressor Governor Isolating
Cock and Plug if necessary.

Check ALL pipes and connections for leaks.

GEARBOX AIR PRESSURE FAILS TO BUILD UP TO 65 P.S.I.

Check Main Reservoir Air pressure.

Check Straight Air Brake is fully released.

Check Gearbox Air Isolating Cock is Open.

Check "Handpump" Cock (3-way) is at "NORMAL" position.

D.S.D. treadle must be depressed.

Check Overspeed Trip Device has not operated.

Check pipes and connections for leaks.

UNABLE TO CHARGE AIR BRAKE PIPE TO 70 p.s.i.
(DUAL BRAKED LOCOMOTIVES)

Check Main Reservoir pressure.

Check Auto Brake Valve handle at 'RUNNING' position.

Check Auto Brake Valve Isolating Cock is open.

Check D.S.D. has not operated.

Check Overspeed Device has not operated (if fitted).

Check Air/Vacuum Emergency Brake Valve is closed.

Check Air Control Release Valve is not leaking (rear of driving cab).

Check D.S.D. Emergency Application Valve is not leaking.

If leaking:- Carry out procedure on Page 7A

Check Nose end pipe connections and end cocks.

Check for internal and external leaks on locomotive.

If hauling air braked stock - check for leaks accordingly.

DRIVERS SAFETY DEVICE - DEFECTS & ISOLATION PROCEDURE.

(DUAL BRAKED LOCOMOTIVES ONLY)

DEFECTIVE AIR EMERGENCY APPLICATION VALVE.

Close D.S.D. Isolating Cock.

Second man required.

D.S.D. Treadle must be de-pressed to "CHARGE" Air brake pipe.

D.S.D. TIMING RESERVOIR OR PIPE CONNECTIONS DAMAGED,
OR OVERSPEED TRIP DEVICE FAILS TO RESET.

Locomotive is a FAILURE

Close D.S.D. Isolating Cock

Send for Assistance.

DIESEL ENGINE RUNNING - UNABLE TO CREATE TRAIN PIPE VACUUM 21".

DUAL BRAKED LOCOMOTIVES

Check Air Brake Pipe pressure.

Check "BSS" cock is at "VACUUM" position.

Check Air/Vacuum Emergency Brake Valve is closed.

Check VAI Control Valve isolating cock is open.

VACUUM BRAKED TYPE LOCOMOTIVES ONLY

Check Vacuum Brake Valve handle is at 'RUNNING' position.

Check Main Reservoir pressure 80/100 p.s.i.

Check D.S.D. has not operated.

Check Overspeed Trip Device has not operated (if fitted).

Check Vacuum Emergency Valve is not leaking - carry out procedure on Page 8A.

8.

Check Vacuum Exhauster is working.

Stop Diesel Engine - Check Belts and Sump level.

Check Vacuum Strainer Flap and Limit Valves.

Check Hoses and Washers on nose end/s.

IF STILL UNABLE TO CREATE TRAIN PIPE VACUUM

Place Auto Brake Valve to "Emergency"

Place BSS cock to "AIR"

Return Auto Brake Valve to "RUNNING"

With Air Brake Pipe charged to 70 p.s.i. operate Vacuum Control Release Valve.

Use Auto Air Brake and/or Straight Air Brake on locomotive.

Place Vacuum Brake Valve to "Emergency"

Release Vacuum Chamber - "ZERO".

Use Straight Air Brake on locomotive.

DRIVERS SAFETY DEVICE - DEFECTS & ISOLATION PROCEDURE

(VACUUM BRAKED TYPE LOCOMOTIVES ONLY)

VACUUM EMERGENCY VALVE LEAKING

Close "LARGE" Isolating Cock on Vacuum Train Pipe(in driving cab).

D.S.D. is still operative on locomotive but not on vacuum fitted stock.

If NO Isolating cock provided - Locomotive is
a failure for Vacuum Brake working.

D.S.D. AIR PIPE CONNECTIONS DEFECTIVE

Close D.S.D. Air Isolating Cock and "LARGE"
Vacuum Train Pipe Isolating Cock if working
Vacuum Brake.

If NO D.S.D. Isolating Cock provided or Overspeed
Trip device fails to reset - Locomotive is a failure.

LOCOMOTIVE FAILS TO MOVE AFTER GEAR 1 HAS BEEN
SELECTED.

Check "ALL" Brakes are fully released.

Check Gearbox Air pressure.

Check Final Drive Locking Pin is in 'RUNNING' position.

Check Gearbox output shaft is not running free.

Gear lever to "NEUTRAL" - Secure locomotive.

Check Fluid coupling for leaks.

Select Gear 1 and try again.

If unsuccessful - Gear Lever to "NEUTRAL",
Secure locomotive - Stop Diesel Engine.

Adjust Brake bands as instructed.

LOSS OF TRACTIVE EFFORT

Check gearbox air pressure.

Check ALL Brakes are released.

Check Wheels are not slipping.

Check correct gear selected
(If below 2 m.p.h. in Gear 1 - Load to be reduced).

Secure Locomotive - Stop Diesel Engine

Check Fuel injection pump latches.

Check Fuel system for leaks.

Adjust Brake Bands as instructed.

REASONS FOR STOPPING DIESEL ENGINE

In the event of "FIRE".

To engage or Isolate the Final Drive.

When Reverser fails to throw.

When necessary to adjust brake bands.

Failure to maintain lubricating oil pressure above 25 p.s.i.

Pronounced knocking or unusual noises from Diesel Engine -
Gearbox or Final Drive.

Loss of Water from System.

LOCOMOTIVE BRAKE CYLINDER PRESSURE WILL NOT RELEASE

DUAL BRAKED TYPE

Check Air Brake Pipe pressure.

Operate Air Release Valve (Rear of Cab).

BOTH TYPE OF LOCOMOTIVES

Check Train Pipe Vacuum at 21" if working under Vacuum conditions.

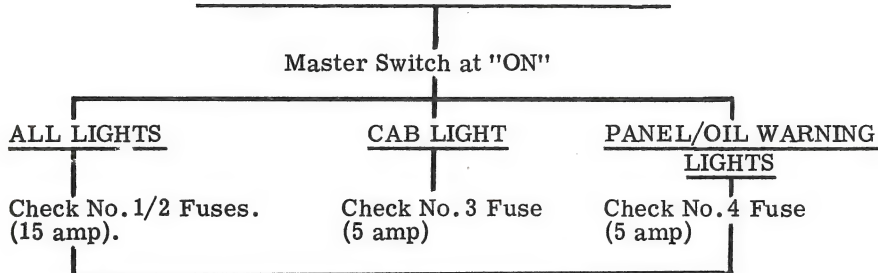
Check Vacuum Chamber/Control is at "ZERO"
If Vacuum conditions not required.
(Vent by operating Vacuum Release Valve in Cab)

Check Straight Air Brake handle is at
Release position.

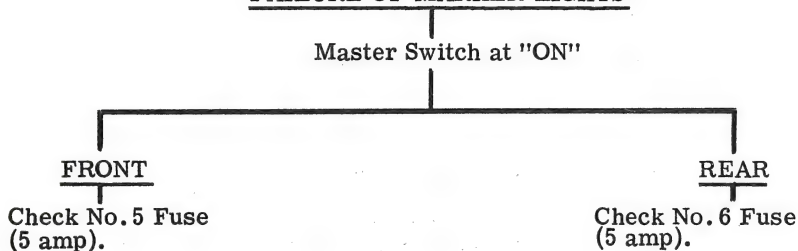
Check D.S.D. has not operated.

Check Overspeed Trip Device has not operated (where fitted).

FAILURE OF LOCOMOTIVE LIGHTING



FAILURE OF MARKER LIGHTS



NOTE: No. 7 Fuse (5 amp) - protects electric cab heaters (where fitted).
No. 8 Fuse (5 amp) - protects window wipers or is a spare.

If Battery Ammeter shows a heavy discharge, Stop Diesel Engine, examine Generator Belts and connections.

Check the Generator Strip Fuse in Cut-out box in driving cab.

Restart the Diesel Engine raise R.P.M. to 700 and check Ammeter reading.

USE OF REPAIR BOOK B.R.33063

The use of Repair Card No. B.R.87319/1 has been discontinued and Repair Book B.R.33063 has been made available in a driving cab of each locomotive.

When in charge of a locomotive, the driver will complete the necessary page required in respect of any defects which may occur on the locomotives concerned leaving a clear line between each item reported. This must be done in duplicate using the carbon paper provided and both copies left in the book on the locomotive.

The Driver MUST NOT remove the duplicate slip from the Repair Book except under the instructions regarding locomotives working in multiple.

The Locomotive, owning depot, date and time and by whom reported, must be shown at the top of each Repair Book Report made out. It is not necessary to record in the Repair Book the words "no repairs".

In the event of the driver being unable to state positively the location of a fault, he should state clearly in the Repair Book the symptoms giving any information likely to assist Maintenance Staff. For example notch position on the controller, road speed, temperatures where these are available, fault light indication etc.

If a fault has developed whilst in service but has been rectified, this occurrence should also be reported in the Repair Book in order that the Maintenance Staff can ensure that the necessary steps are taken to see that no further repairs are required.

On arrival at a depot the Repair Book must be left on the locomotive.

If a locomotive is left in a siding away from a maintenance depot and reports are necessary, the driver must enter up the defects in the Repair Book in duplicate and then advise the nearest Motive Power Supervisor where practicable or the Traffic Control, that repairs are required and where the locomotive is stabled. The duplicate slip must not be torn out.

Shed Movements, Preparation - Light Running.

A driver moving a locomotive within shed limits or preparing a locomotive running light to or from a depot must make out a repair slip B.R.33063 in duplicate if a fault is found. If a defect occurs when the Repair Book is not on the locomotive, i.e. it is in the hands of the Maintenance Staff at the Depot, the driver must report the defect in person or by telephone to the Motive Power Supervisor or Traffic Control.

Locomotive Working in Multiple.

If a defect occurs the driver must endeavour to report the matter in the Repair Book applicable to the locomotive concerned. Where this is not possible the driver should complete a slip in duplicate in the Repair Book of the locomotive which he is driving, clearly endorsing the slip "this refers to locomotive No..... working in multiple."

In this case the duplicate page should be detached from the book and handed to the driver taking over the second locomotive. This driver must then enter the defects in the correct Repair Book and this will be dealt with in the usual manner when disposing of the locomotive.

The Maintenance Staff are responsible for replacing the Repair Book on the locomotive after repairs have been carried out and the 'action taken' column has been completed.





